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Procedia Economics and Finance 34 (2015) 417 – 422

Procedia
Economics and Finance

www.elsevier.com/locate/procedia

Business Economics and Management 2015 Conference, BEM2015

Proposal of the evaluation system of the level of the innovation processes management in company

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Abstract

In order to be innovative processes managed effectively, it is necessary to be reported certain results in areas affecting the management of innovation processes. Every company has a different level of management of innovation processes. In the first step it is necessary to identify the current level of management of innovation processes in the company, then uncover weaknesses / sides and make recommendations for their improvement. The identification of the current level can significantly contribute to improving the management of innovation processes in Slovak businesses. The main aim of the paper is highlight the possibility of creating an evaluation of the level of the innovation processes management in company. The proposal defines different levels of preparedness, the basic evaluation methodologies and evaluation procedures. The proposed evaluation system can be a valuable tool for managers to achieving rationalization of innovation processes in the business. This paper reports the results of research about the achieved level of innovation processes in terms of Slovak businesses.

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Peer-review under responsibility of the Organizing Committee of BEM2015

Keywords: innovation, innovation process, innovation management, level, company

1. Introduction

In these days the effective management of innovation processes helps the company to retain its position in the market, and also increase its competitiveness. It is necessary to create the right conditions for the management of innovation processes (Salerno et al., 2015). This requires the identification of the current situation in the implementation of innovative competence in the innovation process.

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2. Material and Methods

The main purpose of this paper is to gain new knowledge in the field of innovation management with a focus on the identification of the main levels in the management of innovation processes. There were used different methods by solving the defined problem, for example: content analysis - the study of documents, synthesis, comparative analysis, process analysis, statistical analysis, modelling, programming, empirical research methods and others.

Between October 2012 and January 2014 we conducted a research, whose primary goal was to gather and interpret information about the level of use of innovation processes management in the environment of Slovak enterprises. In total, 321 managers of small, medium and large enterprises from companies active in Slovak republic took part in the research. Calculated recommended sample size was 384 respondents. The survey covered 321 respondents. Following the conversion, the actual sampling error was at the level of 5.46%.

As major problems hindering the effective management of innovation processes by the managers are considered: the lack of the necessary financial resources to ensure the innovation process (210 companies), distrust of the company managers to the possible outcomes arising from a lack of innovation (187 companies) and missing information ensuring the innovation process (168 companies).

3. Results

Within the evaluation of management of innovation processes it has been created a comprehensive methodology which includes three detailed possibilities of the evaluation in the innovation management: (Lendel, 2014)

1. *The scoring system for evaluating the level of management of innovation processes.*
2. *Evaluation of the management of innovation processes using the method SERVQUAL.*
3. *A comprehensive evaluation of innovation performance.*

The methodology for evaluating the level of innovation management processes can be the basis for further evaluating carried out also in other researches. The methodology was created based on the experience, detailed analysis and synthesis of knowledge in the management of innovation processes, which were obtained from the scientific literature and research.

3.1. The draft of the scoring system for evaluating the level of management of innovation processes

The success of the innovation processes management is largely determined by a number of factors. As a key factors can be considered the information security, innovative expertise, element of the management, learning and the revision of processes. The current state of the key elements of the innovation process may lead to the decision that to reduce the risk of failure of its implementation is necessary to change the status of some key elements and then proceed to the management of innovation processes in the company.

It is possible to distinguish four major areas of key elements of innovation process management. This includes the following areas:

- the state of information security of innovation processes,
- work with elements of management which support the innovation process,
- the state of usage of the innovative expertise,
- the state of the innovation process.

Each area of key elements has a significant impact on the efficiency of the management of innovation processes. Every area can be expressed by matrix. The matrix describes the conditions in key elements, the score of each status and the listing of main risks arising from the status area. Points, which are assigned to each status are used to determine the level of management of innovation processes in the company. The matrix follows from conditions of described areas.

The value of individual points, as well as the formulation of the status of innovation process and the main risks are basis for discussion in scientific domestic and foreign public.

There is a relationship between the level of management of innovation processes and the point evaluation of areas its key elements. If the company management trying to eliminate the risk and trying to successfully manage its innovation processes must achieve a number of points corresponding to at least an acceptable level. According to a number of statuses and their points were created a table. It is comparative table. On the basis of this table is possible to determine the level of management of innovation processes in the company. In comparative tables each level of management of innovation processes represents individual range of points. If the company does not achieve at least an acceptable level, it should take steps to achieve it. Only then the innovation process is realised smoothly and it is possible to minimize the occurrence of mentioned risks.

Suggested comparative table (Table 1) comes from the fact that the sum of points for the best condition in each area of the key elements of cooperative management is 40 points (Each area is rated a maximum of 10 points).

Table 1. The draft of a comparative table to determine the level of management (Lendel, 2014)

The level of management	The point range
chaotic	0 – 16
inadequate	17 – 24
acceptable	25 – 32
high	33 – 36
excellent	37 – 40

In case that the company position is on other than the excellent level, then there is a place in the company for improvement in the management of innovation processes that the company should use.

This method of evaluation of the level of innovation process management is suitable for the rapid diagnosis of the situation, but with requirements for obtaining detailed information about the status of management of innovation processes. This is a quick and also in terms of information detailed tool that provides managers of company the profile of management of innovation processes in the company. Individual points evaluation shows areas in which is the potential for improving the management of innovation processes in the company.

Creation of a methodology has some characteristics of subjectivity. For its further application will be required verification in the form of discussion in professional public and practice in the field of innovation, process and strategic management. Authors plan to ask professionals working in universities and colleges especially in Germany, Austria, Poland, Lithuania and the Czech Republic on their opinion about the created methodology. Some universities are already in cooperation. The correctness of set levels of management of innovation processes can be verified by performing a more detailed empirical research.

3.2. *Evaluation of the level of innovation process management through the SERVQUAL method*

For the purposes evaluation of the level of innovation management processes in the company can be used the SERVQUAL method. This method is used in measuring the service quality and consists of five determinants of quality: reliability, willingness, certainty, empathy and material elements. Specifically, it is possible to use the evaluation mechanism, while the content will be adjusted as necessary to research the level of innovation management processes in the company. Five key determinants of innovation management processes:

- the information security of innovative processes,
- the innovative expertise,
- application of management elements,
- revision of innovation processes,
- learning.

The figure 1. shows the new elements that form the content of particular problem areas.

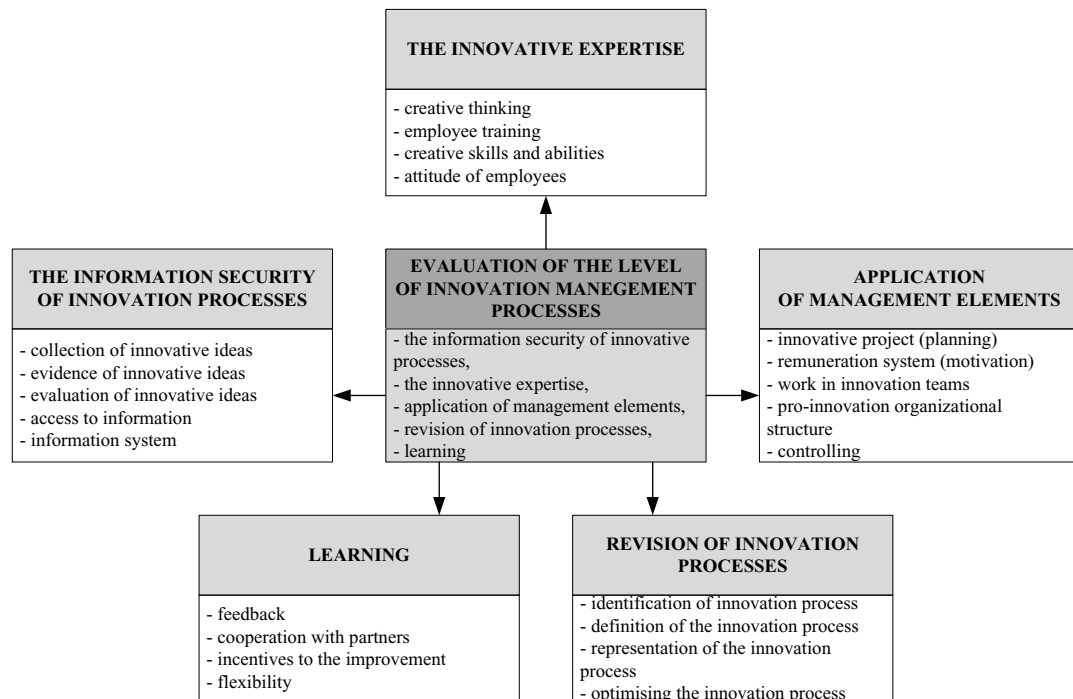


Fig. 1. Areas of evaluation of the level of innovation management processes in the company (Lendel, 2014)

The responsible manager of the company will answer 22 prepared questions that correspond to the area. Each question consists of two parts (a / b). The first part of the question relates to the evaluation of the area in case of an ideal company which achieved excellent results in this area. Company manager have to express the level of its consent on the point scale from 1 to 7, where 1 means completely disagree and 7 means strongly agree. In the second part of the question the manager reflects on the relationship to the company, it means the perception that the company complies the facts.

Within this methodology, the mainly attention paid to the evaluation of different areas and make changes to them, to be increased. This evaluation method of the level of innovation process management is useful in the case that the company needs a simple way to get informed about the status of management of innovation processes.

3.3. A comprehensive evaluation of innovation performance

Management of innovation processes is one of the key evaluation areas in comprehensive evaluation of innovation performance. This methodology is for company managers to self-assessment of innovation performance. Evaluation is realised by the predetermined evaluation team. The whole process of self-assessment of innovation performance can be divided into three phases:

1. *the preparatory phase,*
2. *the implementation phase,*
3. *the evaluation phase.*

In the first step it is necessary to create a system of self-assessment of innovation performance. Within the preparatory phase the company have to set an appropriate criteria and elaborate the concept. Next step is integration of the created system of self-assessment into the innovation strategy. Emphasis should be placed on the compilation of the evaluation team and the selection of evaluators.

On the basis of the ongoing innovation activities the company will set goals for evaluation and set the resources and ways how to achieve goals. After realization of preparatory activities it is possible to proceed to the draft of the

evaluation program. Firstly, it is necessary to choose the methodology to be used in evaluation and establish evaluation indicators. It is also necessary to count with a number of innovative factors. Program of the evaluation should also include the timetable, the factual content, rules for the evaluation, and organizational aspects. The draft of evaluation program is consulted with the company management, respectively with the responsible manager. After its approval, the evaluation team starts preparing to the evaluation.

In the implementation phase is necessary to gather and analyse background materials obtained from various information sources. At this phase of evaluation is possible to obtain data from information system. Next step is evaluation by individual evaluators in which is appropriate to conduct interviews with employees and business partners, who know the innovation process and know to point not only on weaknesses, but also on improvement.

The evaluation phase focuses on the elaboration and finalization of the evaluation, which includes an assessment of the effects of innovation and draft recommendations. The report of evaluation is delivered to the management of company and the discussion about differences can start. The implementation of improvements will start after approval of the evaluation report. Based on discussions with company management is possible to set arrangements to improve evaluation program and the evaluation system itself. The last part of the process is to inform employees about the conclusions of the whole evaluation process, so they can express themselves to the results.

4. Discussion

In order to be innovative processes managed effectively, it is necessary to be reported certain results in areas affecting the management of innovation processes. Every company has a different level of management of innovation processes. In the first step it is necessary to identify the current level of management of innovation processes in the company, then uncover weaknesses / sides and make recommendations for their improvement. To do this it is necessary to have built up an appropriate methodology for evaluation of the management of innovation

Every company has a different level of the innovation processes management. For the purposes of evaluation of the level of innovation processes management can be designed five-level segmentation:

- chaotic level,
- inadequate level,
- acceptable level,
- high level,
- excellent level.

Chaotic level of the management of innovation processes corresponds to the company that does not have a primary interest to manage innovation processes in any way. Management of the company has no concrete idea of how the innovation process should take place in the company. Creation of innovative ideas is not supported and these ideas are not generated or recorded in the company. In the company does not run communications between the company and employees who are motivated to bring innovative ideas. The company does not have any remuneration program for the innovation ideas. The final result of this situation is the fact that the company does not generate any innovations which may be implemented in the company (applies to all types of innovation - marketing, product, process ...).

Inadequate levels of innovation management processes corresponds to the company in which is possible to observe the efforts to start activities leading to the management of innovation processes. Management of the company does not have a comprehensive understanding of the management of the innovation process but it is beginning to realize its importance. Innovative ideas are already in the company collected but unrecorded. Company management at this level does not yet support the creation of innovative ideas. Communication between company and employees is on the higher level as in the company with chaotic level of the management of innovation processes. Company does not have a remuneration program, only the exceptional innovative ideas are rewarded. These ideas are further processed and innovations are being implemented unsystematically without using of appropriate methodological tools and closer mapping of the innovation process. The whole process of implementation of innovation occurs randomly with the participation of a number of problems that arise during the course and prevents to the successful implementation of innovation.

Acceptable level of management of innovation processes corresponds to the company which fulfils the minimum level, it means that management of innovation processes can occur in the company. Management of the company is

aware of the importance of innovation processes which are included in its long-term plans and allocates the resources needed to manage them. Innovative ideas at this level come mostly from customers and employees of the company, which are then recorded. The rate of recorded information differs from the innovative idea (recorded are just some information). The program of remuneration includes employees rewarding through formal acknowledgment. The improvement is also in the deployment phase of implementation of innovation in which can be seen applying the systems approach although methodological tools are used only to a minimum. Company managers are trying to eliminate the creation of problems in the implementation of innovations.

High level of the innovation management processes corresponds to the company which is moving forward in this field and implements innovations systematically using some methodological tools. Innovation processes are supported by the management of company. Innovation processes are also perceived as a key factor determining the innovation orientation of the company. Innovative ideas are collected from internal and external environment. Company keeps a reliable record of innovative ideas and the most important information is recorded in the information system. The program of remuneration count with rewarding employees and also other providers of innovative ideas. Managers take active approach to managing the innovation process. The result of this active approach is a minimum of problems arising during the implementation of innovations.

Excellent level of the management of innovation processes corresponds to the company which effectively manages its innovation processes. Innovation management is fully supported by management of the company. In the company runs sophisticated system of work with innovative ideas that come from all sources (internal and external) and are supported by all stakeholders. All innovative ideas are carefully and in detail recorded in the information system that enables effective work with them. Company has a comprehensive program of remuneration and rewards any interested parts which provide an innovative idea. The management of innovation processes ongoing systematically. The company implements innovation by using methodological tools. Problems related to the creation and implementation of innovation in the company are eliminated.

5. Conclusion

An important activity in the process of evaluation of innovation performance is the choice of evaluation indicators. In the literature it is possible to find several different indicators and recommended methods (Bernstein, Singh, 2006; Dvořák, 2006; Hamel, 2002; Mol, Birkinshaw, 2009). In the process of selecting indicators is important to consider the conditions of the company, the phase of the innovation process, and innovation competence.

At the same time it should be noted that in principle there is no universal measurement system of success of the innovation process. The choice of evaluation methodologies and indicators depends on the situation in the company and depends also on evaluation purposes. However, as a major indicator of the success of the innovation process can be regarded the achievement of established innovation objectives.

Acknowledgements

This paper was partially supported by the Slovak scientific grant VEGA 1/0363/14 Innovation management - processes, strategy and performance.

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